AMENDMENTS TO THE CLAIMS

1-23. (Canceled)

24. (Currently amended) A charged particle beam apparatus comprising:

a charged particle source;

an optical element for adjusting a charged particle beam emitted by the charged particle source;

an alignment deflector for aligning the axis of the charged particle beam with respect to the optical element; and

a control device for calculating a two dimensional deviation between images when the optical element is varied,

wherein the control device calculates, regarding at least two different alignment conditions, two dimensional deviations when a condition of the optical element is varied,

wherein the control device obtains a relational expression between the alignment condition and the two dimensional deviation based on each of the alignment conditions and each of the two dimensional deviations corresponding to the alignment conditions, and

wherein the control device ~~calculates a condition of the alignment deflector based on different two dimensional deviations obtained by supplying the alignment~~

~~deflector with different signals and wherein the control device~~ calculates a signal supplied to the alignment deflector ~~with the calculated condition~~ based on the relational expression so that the two dimensional deviation becomes zero or nearly zero regardless of variation of an operation condition of the optical element.

25. (Previously Presented) The apparatus according to claim 24, wherein said control device detects a deviation that is detected when the condition of said optical element is varied, for each different condition of said alignment deflector.

26. (Previously Presented) The apparatus according to claim 25, wherein said control device calculates an unknown number indicating the relationship between said deviation and said alignment condition based on the deviation detected for said each different condition.

27. (Previously Presented) The apparatus according to claim 24, wherein the control device calculates a coefficient determining the condition of the alignment deflector.

28. (Previously Presented) The apparatus according to claim 24, wherein said control device determines the direction and amount of deflection of said alignment deflector when a predetermined signal is supplied to said alignment deflector, and stores

the amount of correction by said alignment deflector, for each alignment by said alignment deflector.

29. (Previously Presented) The apparatus according to claim 24, wherein said control device determines whether or not there is structure information necessary for the calculation of said deviation based on said image.

30. (Previously Presented) The apparatus according to claim 29, wherein said control device quantifies the presence or absence of said structure information necessary for the calculation of said deviation in said image.

31. (Previously Presented) The apparatus according to claim 30, wherein said control device determines that said structure information is not suitable for alignment by said alignment deflector if said quantified value is equal to or lower than a predetermined value.

32. (Previously Presented) The apparatus according to claim 30, wherein said control device effects quantification by a two-dimensional Fourier transform of said image.

33. (Previously Presented) The apparatus according to claim 24, wherein the optical element is an objective lens which focuses charged particle beam and/or an astigmatism corrector which corrects an astigmatism of the charged particle beam.

34. (Currently amended) A charged particle beam irradiating method for irradiating a sample with a charged-particle beam emitted by a charged-particle beam source, comprising the steps of:

calculating, regarding at least two different alignment conditions, two dimensional deviations when a condition of the optical element is varied;

obtaining a relational expression between the alignment condition and the two dimensional deviation based on each of the alignment conditions and each of the two dimensional deviations corresponding to the alignment conditions; ~~determining a condition of an alignment deflector based on different two dimensional deviations between images wherein the deviations are obtained by supplying the alignment deflector with different signals,~~ and

calculating a signal supplied to ~~the~~ an alignment deflector ~~with the calculated condition~~ based on the relational expression so that the [[a]] two dimensional deviation becomes zero or nearly zero regardless of variation of an operation condition of an optical element.

35. (Canceled).